DOCUMENT RESUME

ED 078 221 VT 020 572

TITLE	Research and Curriculum Development Coordinating Unit. Annual Report, 1971-72.
INSTITUTION	Puerto Rico State Dept. of Education, Hato Rey. Research and Curriculum Development Coordinating Unit.
PUB DATE	30 Jun 72
NOTE	27p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Annual Reports; Curriculum Development; *Educational Planning; *Educational Research; Operations Research; Research and Development Centers; *Research Coordinating Units; *Research Projects; *Vocational Education
IDENTIFIERS	*Puerto Rico

ABSTRACT

This document highlights the activities and accomplishments of the Puerto Rican Research and Curriculum Development Coordinating Unit during the 1971-72 year. The Unit includes the following components: (1) Educational Research, (2) Curriculum Development, (3) Information and Dissemination, and (4) Planning and Evaluation. Included is information on the four components as well as descriptions of the projects and studies conducted. Proposed future activities are: (1) information gathering for planning and developing programs and projects, (2) development of an information system, (3) design and implementation of career education projects, (4) the conducting of needs assessment type activities to determine the feasibility of developing occupational education programs, (5) program and project evaluations, (6) curriculum development for regular and special programs, and (7) information dissemination. (SN)

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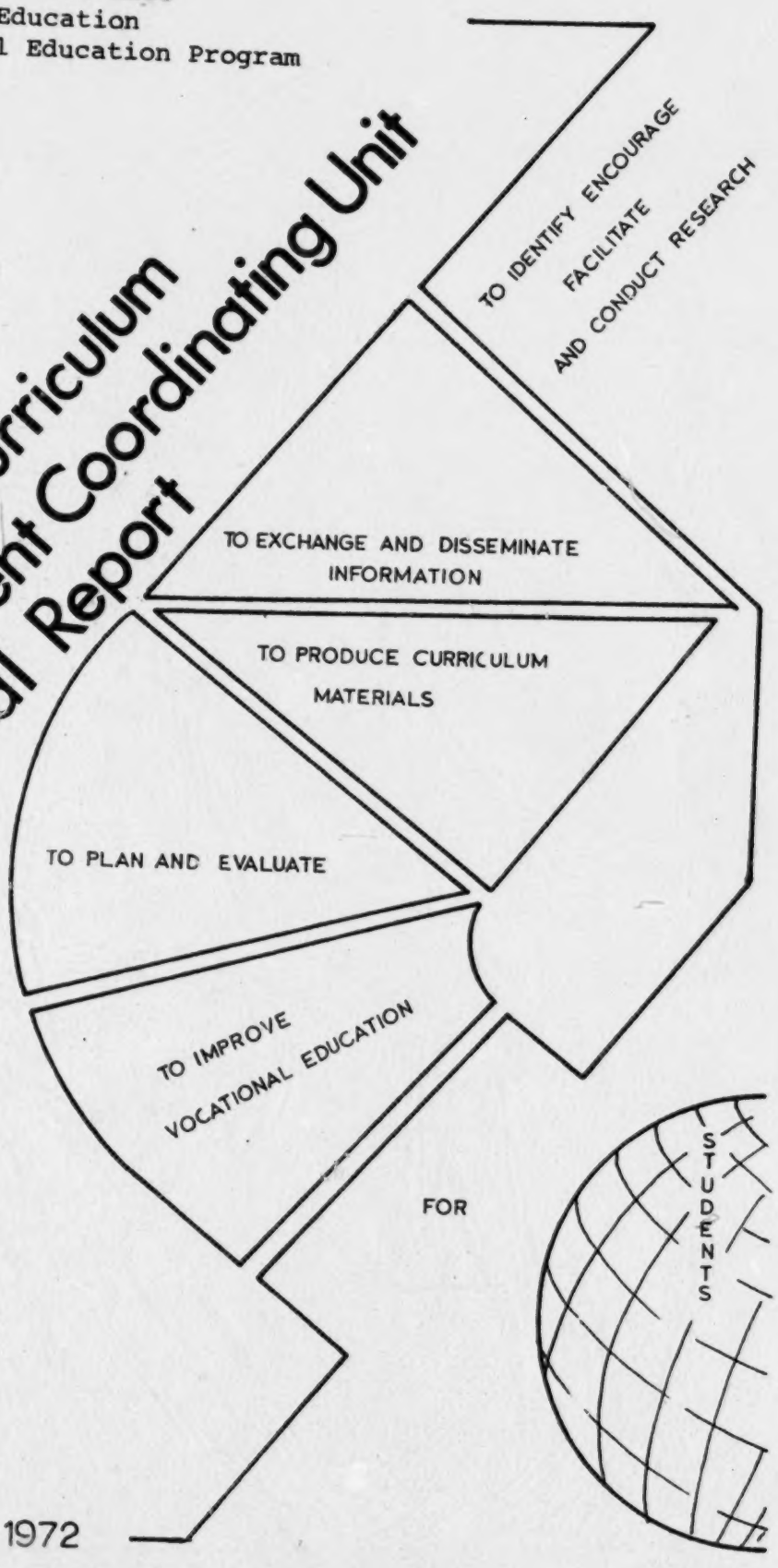
Commonwealth of Puerto Rico
Department of Education
Vocational and Technical Education Program

ED 078221

Research and Curriculum Development Coordinating Unit Annual Report



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June 30, 1972

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ANNUAL REPORT - 1971-72

RESEARCH AND CURRICULUM DEVELOPMENT COORDINATING UNIT

Dr. María Socorro Lacot
Assistant Secretary

Vocational and Technical Education Program

Dr. Amalia Ll. de Charneco
Director
Research Coordinating Unit

June 30, 1972

Board of Vocational and Technical Education
DEPARTMENT OF EDUCATION
Hato Rey, Puerto Rico

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I. Introduction

The Research and Curriculum Development Coordinating Unit was established in 1968, under the provisions of Section 4, Public Law 88-210, Vocational Education Act of 1963. The Vocational Education Amendments Act of 1968 made it mandatory that 10 per cent of the funds appropriated to the State be allocated for the development of educational research. This 10 per cent is utilized by the Commonwealth to:

1. pay 75 per cent of the cost of operations of the Research and Curriculum Development Unit

2. encourage and provide contracts to colleges and universities for the development of research projects.

The Unit is administratively under the jurisdiction of the Program for Vocational and Technical Education of the Commonwealth Department of Education, specifically attached to the office of the Assistant Secretary for Vocational and Technical Education. Its functions encompass the following: to identify, encourage, stimulate, and facilitate research in vocational education, to improve research competencies and contribute to effective information exchange related to vocational and technical education; to coordinate and develop the production of curriculum materials; and to plan and evaluate the development of programs and projects in vocational and technical education.

The Unit works in coordination with all vocational programs: Trade and Industry, Agriculture, Industrial Arts, Distribution and Marketing, Health Program, Business and Office Education, Home Economics, and Guidance. It also coordinates activities with other public and private agencies such as the Commonwealth Labor, Health, and Social Services Departments, the Planning Board, and others.

The Research effort of the Unit, which is coordinated with the various educational services at different levels, is aimed at the assessment of programs and projects needs and evaluations, and the improvement of curriculum and other instructional materials.

II. Objectives

The organizational structure of the Unit was reorganized to contribute more effectively to the improvement of vocational programs according to present demands. Dr. Jack Davis served as a consultant in this matter. New objectives were formulated with the purpose of stimulating, facilitating, improving, and coordinating the development of activities and projects as follows:

1. To administer and coordinate the revision, evaluation and dissemination of curriculum activities.

2. To plan, coordinate, and administer an information system for the collection, storage, and dissemination of information related to vocational and technical education.

3. To initiate, administer, and coordinate activities for the planning and evaluation of programs and projects.

4. To initiate, administer, and coordinate the development of proposals for projects and research studies, follow-up studies and other research related activities.

III. Personnel

The functions of the Research and Curriculum Development Unit were expanded during fiscal year 1971-72. Both the technical and clerical personnel were increased during that period. One Executive Director III, One Researcher III, two Researchers II, five Researchers I, and seven Research Aides made up the technical personnel, while one Stenographer III and five Clerk Typists III composed the clerical staff. There was other personnel in charge of on-going projects, mostly attached to other programs.

IV. Major Activities and Accomplishments

During the year 1971-72 the RCU was reorganized to improve and expand the services offered. A new component, Planning and Evaluation, previously attached to the Assistant Secretary for Vocational-Technical Education Office, was added. The office was physically rearranged, a new chart was worked out and the functions of the RCU personnel were defined.

Two previously attached components, Professional Development, and Reports and Statistics were integrated into a separate office as a result of the total reorganization. The Unit with the four components is responsible for the coordination of research, curriculum development, program planning and evaluation, and dissemination of information of research and research related activities; and of available information materials for program planning, development, and evaluation.

It is expected that the new reorganization will result in a better coordination among the Vocational and Technical Education Programs, and will help in providing immediate attention to their needs.

A. Educational Research Component

The following projects were completed during fiscal year 1971-72.

1. Follow-up Studies of Graduates from Vocational and Technical Education Programs both at the Secondary and Postsecondary Levels.

These studies provided data to complete the U.S. Office of Education required reports.

Year 1969-70

The 1969-70 follow-up study revealed that out of the 4,170 secondary graduates that answered the questionnaire utilized in the study, 2,968 or 71 per

cent were available for placement. Out of these 2,968 graduates, 939 (32 per cent) were employed full time in the field for which they were trained or in a related one; 932 (31 per cent) were employed full or part time in a nonrelated field and 1,097 (37 per cent) were unemployed.

A total of 1,202 (29 per cent) of the students reached in the study were not available for employment. Eighty two per cent or 985 continued studied at a higher level and 18 per cent or 217 were in the armed forces, sick, or not interested in a job.

At the postsecondary level, 909 graduates responded to the follow-up questionnaire. A total of 807 or 89 per cent of the respondents were found to be available for employment. The analysis of the responses indicated that 506 or 63 per cent of the respondents were employed full time in the field trained for or a related one; employed in a nonrelated field were 140 or 17 per cent of the respondents. In addition, the study indicated that 161 or 20 per cent of the graduates were available for work but unemployed. Furthermore, the study reveals that out of the 11 per cent not available for employment, 57 (56 per cent) have continued studies at a higher level and 45 (44 per cent) were in the armed forces, sick or not interested in a job.

Year 1970-71

The follow-up study for 1970-71 is in its final phase as of now. The tabulations of the report have been finished and the final draft will be ready soon.

2. Evaluation of Home Economics Occupational Program in Puerto Rico, 1964-68, Phase I.

The purpose of this study was to assess the effectiveness of the home economics courses designed to provide training for gainful employment. Data already analized during the first phase of the study revealed that 75 per cent of the graduates selected those courses to obtain through their contents the required training for employment. The final report of Phase I is in its final development.

3. Follow-up Study of Graduates from the Televised Course on Basic Principles of Refrigeration and Installation of Air Conditioning Equipment in Automobiles, offered in 1970-71.

The purpose of this study was to determine the benefits derived by the enrollees from the course and the effects on the labor force.

The study revealed that 68.5 per cent of the graduates became part of the labor force. The study further revealed that as a direct consequence of the

televised course, unemployment among the enrollees was reduced to 19 per cent with respect to the total number of students admitted to the course. Graduates indicated satisfaction with the course and recommended that the practice and theory of it be expanded and improved.

4. Study of the Type of Positions Held by the Vocational and Technical Education Personnel.

This project dealt mainly with the identification of the types of positions held by vocational education personnel on regular, transitory and part-time appointments, for budgetary implications purposes.

This research revealed that in 1971-72, 80 per cent of the vocational personnel was assigned to regular positions, 11 per cent were on a transitory basis, and 9 per cent were on a part-time basis. There were a total of 2,669 positions for all programs.

5. Survey of Public and Private Vocational Education Facilities to Prepare a Directory of Private and Public Schools Offering Vocational Programs at the Secondary and Postsecondary Levels.

This survey was performed at the request of the U.S. Office of Education in Washington as part of a project to develop an inventory of Vocational and technical education facilities at the national level. The inventory of all private and public schools at the secondary and postsecondary levels will be compiled on a document of all vocational offerings in Puerto Rico, which will serve to examine, analyze, and expand, if necessary, vocational offerings.

6. Research to Determine the Professional and Technical Competencies Needed in the Vocational Agriculture Curriculum.

The research was carried out by Mr. José A. Millán, teacher- trainer of the School of Agriculture of the University of Puerto Rico at the Mayaguez Campus. This project constituted Mr. Millán's doctoral dissertation. It provided recommendations to the agriculture faculty of the University of Puerto Rico for the improvement of the teacher education curricula in the agriculture area.

7. Present and Prospective Skilled Manpower Needs of the Dairy Industry in Puerto Rico.

This project, developed by the Vocational Agriculture Program, was intended to determine present and prospective manpower needs of the dairy

industry in Puerto Rico, as a basis for establishing a school of agriculture specialized in dairy products.

8. Study to Identify and Classify Handicapped Students Enrolled in Vocational Technical Education Courses, 1971-72.

The purpose of this survey was to identify students in vocational programs that were hindered by physical, social, economical, or cultural disadvantages and their needs for special programs and services. The survey included students enrolled in vocational programs with a percentile of less than 10. It was found that in the six educational regions, 41 school districts and 64 schools, there was a group of 1968 students with different disadvantages. The report is being revised for duplicating and disseminating purposes.

B. Curriculum Development Component

During the year 1971-72 a Vocational Center for Pedagogical Resources was organized with subcenters in the San Juan and Mayaguez Educational Regions. The San Juan subcenter is divided in four areas: one for curricular production, one for multiple uses, one for graphic arts, and a laboratory for audiovisual productions.

The curriculum production for each vocational education program served as a basis for a plan of curriculum development worked out by the Unit.

Appendix B describes the 1971-72 curriculum production by programs.

The curriculum production developed at the Mayaguez Educational Region subcenter was for the Trade and Industry Program. Three projects are under way in this subcenter:

1. Preparation of an integrated course in science and mathematics applied to industry.

2. Preparation of curricular materials for occupational clusters in construction, mechanics, electricity, and metals.

3. Curriculum materials for basic skills in Spanish, science, and mathematics.

During the school year 1971-72 materials prepared included: 3 chapters for the laboratory of the construction cluster, 12 modules for teaching mathematics, one unit on Spanish grammar for the second cycle, grades 4th to 6th and one unit on Spanish grammar for the fourth cycle, grades 9th and 10th.

C. Information and Dissemination Component

The library of the information and dissemination component was reorganized to offer better service to the vocational and technical education personnel. New personnel was assigned to this component. Some of the major activities and accomplishments of this component were as follows:

1. Production of materials such as:

   a) a bulletin about the functions of the RCU

   b) a bibliography on ERIC materials available at the library (See Appendix A)

   c) a summary of the research carried out by the "Centro de Investigaciones Sociales" of the University of Puerto Rico on present and future needs for manpower resources in technical, skilled, and clerical occupations and its implications for planning training programs in Puerto Rico.

2. Materials were distributed to the vocational-technical education personnel about topics such as career education, development of proposals, curricular materials developed by Consad Research Corporation and annual plans and reports of the Vocational and Technical Education Programs.

3. Other activities were carried out such as the participation in the planning of a seminar about the reorganization of the RCU, translation and edition of educational materials, and others.

D. Planning and Evaluation Component

Activities carried out by this component were as follows:

1. Preparation of an integrated course in science and mathematics applied to industry.

2. Preparation of curricular materials for occupational clusters in construction, mechanics, electricity, and metals.

3. Curriculum materials for basic skills in Spanish, science, and mathematics.

During the school year 1971-72 materials prepared included: 3 chapters for the laboratory of the construction cluster, 12 modules for teaching mathematics, one unit on Spanish grammar for the second cycle, grades 4th to 6th and one unit on Spanish grammar for the fourth cycle, grades 9th and 10th.

V. On-going Projects

The following is a list of on-going projects of the Research and Curriculum Development Coordinating Unit as of June 30, 1972.

A. Job Analysis and Curriculum Development for Eight Trade and Industry Occupations

In view of the diversity of trades in the Vocational Industrial Program, this research study is to be performed by phases. Phase I, consisting of job analysis in eight trades, is under contract with Peat, Marwick, Mitchell and Co. This job analysis will be translated in terms of curricular content and time required to train personnel in those trades, in order to meet the real needs of industry and commerce.

B. Research on Consumer Patterns of the Puerto Rican Family

This research study was initiated during school year 1971-72 and is under contract with the School of Home Economics, College of Education, of the University of Puerto Rico at Río Piedras. The purpose of this project is to determine the socio-economic factors that influence the spending habits, utilization of income, and consumer patterns of the Puerto Rican family. Its results will be utilized to adapt the home economics curriculum to the actual needs of students.

C. Business Vocabulary Count in the Spanish Language

This study is an on-going project intended to determine, for curriculum revision purposes, the Spanish words and phases most frequently used in Puerto Rico's written business communication. This study is in the phase of collecting data, and will be continued during fiscal year 1972-73.

D. Survey of Professional Guidance and Counseling Needs in Puerto Rico, Grades 1-12.

This survey is under contract with the College Entrance Examination Board. No interim report has been received from the Board.

E. A Model State Pedagogical Resources Center for Designing, Producing, Testing, Revising, and Disseminating Teaching Audiovisual and other Educational Materials for Students of Regular, Special, and Postsecondary Programs for Vocational-Technical Education in Puerto Rico (1970-71 carry over).

This project was initiated on Janurary 1972 and is operating under the Curriculum Component of the Research and Curriculum Development Coordinating Unit.

F. Enrichment of the Office Practice Course at the Secondary and Postsecondary Levels through the Organization of a Model Office.

The project initiated on 10 secondary schools throughout the Island is going to be continued next year at the postsecondary level.

VI. Preparation of Proposals

The Unit coordinated the preparation of twelve proposals as follows:

A. Proposal for the Preparation of Guides and Tests for Self-study in Business Education.

B. Proposal for the Establishment of a Special Vocational Center at the Ramey Air Force Base in Aguadilla for the Purpose of Developing in Students the Abilities Needed to Serve a Country with an Expanding Economy.

C. Proposal for the Establishment of a Vocational-Technical Center for Marine Occupations in Vieques.

D. Proposal for the Establishment of a Skill Center in the Model City for the Purpose of Encouraging a Favorable Social Change and to Up-grade the Scholastic Achievement of the Resident Population.

E. Proposal to Continue a Pilot Program in Business Education at the Buchanan Educational Opportunities Center, for Training Disadvantaged Students for Successful Competition in the World of Work as Machine Transcribers and Court Recorders.

F. Proposal to Create a Mobile Office Designed to Provide Real Work Experience in Office Occupations.

G. Title I Proposal (ESEA, Public Law 89-10) with the Purpose of Providing and Expanding Vocational Education Programs in Academic High Schools to Provide

Students with the Neccessary Skills and Knowledge to Enter the World of Work or to Continue Postsecondary Studies.

H. Proposal to Carry on Follow-up Studies of Graduates from the Home Economics (Gainful) Courses During the Years 1970-71 and 1971-72.

I. Proposal to Develop Curriculum Modules for Teaching Consumer Education.

J. Proposal to Develop a Basic Curriculum for Training in "Agri-Business".

K. Proposal to Develop a Career Education Project in Humacao.

L. Proposal for the Establishment of a State Pedagogical Resources Center under the Direction of the Research and Curriculum Development Coordinating Unit.

VII. Title I - Project 38, P.L. 89-10

Activities developed under Project 38, Title I - P.L. 89-10 were as follows:

A. Vocational Training was offered in 32 high schools in the 35 disadvantaged districts and in 25 schools of other districts. Enrollment in these courses was 2,113 students, who received economic assistance while studying.

B. Guidance services were offered in 8 school districts to a total of 5,845 students.

C. To meet the demands for curriculum development of the projects, 7 supervisors and 7 curriculum technicians were assigned to them.

D. In-service training of personnel, supervisors, technicians, and teachers was offered in 13 activities to a total of 413 persons.

VIII. Information System

The Research and Curriculum Development Coordinating Unit collaborated with the Office of Educational Information of the Planning and Educational Development Program in the design and implementation of an information system.

The purpose of this system is to provide an information bank that will permit a better planning of services to be offered. The information system for the Vocational and Technical Education Programs will consist of four basic files: students, personnel, physical facilities, and a finance file.

IX. Problem Faced by the RCU in the Implementation of its Annual Plan of Work

The RCU has been working with limited human resources and few regular permanent positions. Only two positions of all available are state regular positions and four are federal regular positions. All other positions are on a transitory basis and this creates a continuous staffing problem.

The creation of regular positions which will result in job security, is urgently needed in order to recruit and retain the services of capable professionals. This will also make possible an intensive staff training in tune with the functions of the different components of the Research and Curriculum Development Coordinating Unit.

X. Future Activities

If appropriate funds and human resources are provided, then the RCU will be in a position to function adequately and to promote projects and activities such as:

A. Research activities that will provide the necessary data for planning and developing educational programs and projects.

B. An information system

C. Career Education projects

D. Assessment of needs and resources for occupational education planning and development.

E. Evaluation of programs and projects

F. Curriculum development for regular and special programs

G. Dissemination of information concerning research and research activities to vocational educators.

Appendix A

PUBLICATIONS AVAILABLE AT THE EDUCATIONAL RESOURCES CENTER OF THE RESEARCH COORDINATING UNIT

Commonwealth of Puerto Rico
Department of Education
Vocational and Technical Education Program
Research and Curriculum Development Coordinating Unit
Hato Rey, Puerto Rico

PUBLICATIONS AVAILABLE AT THE EDUCATIONAL RESOURCES CENTER OF THE RESEARCH COORDINATING UNIT

Classification	Type of Materials
1. ERIC	Collections of:
	AIM catalogues (Annual and Semiannual Indexes)
	ARM catalogues (Annual and Semiannual Indexes)
	RIE catalogues (Annual and Semiannual Indexes)
	Thesaurus of ERIC Descriptors 1969
	CIJE of ERIC Descriptors 1972
	ERIC Catalog of Selected Documents on the Disadvantaged.
	The Manpower Research Inventory for FY 1966-68-69.
	Pacesetters in Innovation 1966-69
	RIE Report Resume Index 1967
	RIE Project Resume Index 1967
	Series of:
	Review and Synthesis of Research; and Information Series (61)
	Leadership Series (17)
	Research Development Series (23)
	Research Series (19)
	Guide for Systematic Planning of Vocational and Technical Education Facilities (15)

Classification	Type of Materials
ERIC (Cont.)	Collections of:
	Bibliographies by topics as follows (11)
	Business and Office Education
	Agricultural Education
	Research on Consumer and Home Economics Education
	Distributive Education
	Health Occupational Education
	Home Economics Education
	Implications of Women Work Patterns for Vocational and Technical Education
	Industrial Arts Education
	Trade and Industrial Education
	Selected and Annotated Bibliography: The Change Process in Education
	Worker Adjustment; Youth in Transition from School to Work
	Collections of:
	Hard Copies prepared by ERIC Document Reproduction Service (97)
	AIM - ARM - RIE Microfiche entire collection (on vocational education)
2. CONSAD Research Corporation	Collection of Research and Research Related Studies prepared for the Vocational and Technical Education on contract basis:
	1. A Draft of a Learning Module for Licensed Practical Nursing

Classification	Type of Materials
CONSAD (cont.)	2. Final Report - Vocational Education on Manpower Training Curriculum Development Project
	3. Summary of Phase I Activities; Vocational Education and Manpower Training Curriculum Development Project.
	4. Career Development Program, Clinton Job Corps Center.
	5. A Manual for Developing Vocational Instruction.
	6. A Manual for the Evaluation of Vocational Technical Programs.
	7. Final Report. A Staff Training Program on Grantmanship and Proposal Writing for Research, Demonstration and Exemplary Education Programs.
3. North Carolina Center for Occupational Education	Collection of research documents centered on occupational education (53
4. New Mexico RCU	Collection of documents on area topics related to the offerings of vocational technical education (12)
5. West Virginia RCU	Small collection of research related documents geared toward vocational and technical education (9)
6. Pennsylvania State University	A series of publication centered on occupational values, attitudes and educational measurements related to vocational education (7)
7. Puerto Rico Research Studies	A collection of publications of research studies prepared for different government agencies of the Commonwealth of Puerto Rico

Classification	Type of Materials
8. Puerto Rico Department of Labor. Bureau of Employment Security	Collections of documents on:
	a. Employment Statistical Data
	b. Guides of occupational patterns (100)
9. Other Publications by Subject (950)	Social Sciences
	Statistics
	Laws
	Economics
	Manpower Supply
	Public Administration
	Education
	Educational Research
	Educational Evaluation
	Educational Objectives
	Education Statistics
	Education Curricula
	Conferences
	Seminars
	Vocational Education Guidance
	Education for Special Groups
	Occupational Education
	Career Education
	Cooperative Education
	Mathematics
	Technology

Classification	Type of Materials
Other Publications by Subject (cont.)	Medical Science Occupations
	Engineering
	Agriculture
	Home Economics
	Business
	Distributive
	Chemical Technology
	Building Construction
	Art
10. Magazines	Collections of:
	Vocational Education Journal
	School Shop
	American Education
	The Balance Sheet
	Business Graphic
	College Management
	Compact
	Education
	The Educational Forum
	School
	Illinois Vocational Progress
	Industrial Puerto Rico
	Manpower
	The New Outlook for the Blind Oportunity

Classification	Type of Materials
Magazines (cont.)	Review of Educational Research
11. Newsletter, News and Bulletins	Broad collections of newsletters, news and bulletins of: RCU ERIC Departments of Education Associations
Equipment	Michofiche Reader Printer (1) Book Shelves (12)

Appendix B

LIST OF CURRICULUM MATERIALS AVAILABLE FOR DISTRIBUTION

COMMONWEALTH OF PUERTO RICO
DEPARTMENT OF EDUCATION
VOCATIONAL AND TECHNICAL EDUCATION PROGRAM
RESEARCH AND CURRICULUM DEVELOPMENT COORDINATING UNIT
Hato Rey, Puerto Rico

List of curriculum materials available for distribution:

Distributive Education

Teaching Guides:

Cashiers

Baggers

Mid-management for Delicatessens

Basic Accounting Principles

Tourist Guides

Salesman for Retail, Wholesale or Service Business

Leaning packages for the students

Window Display

Home Economics

Teaching Guides:

Seamstress

Specialist in Food Preparation for Special Ocassions

Florist

Assistant in Food Preparation and Service

Business Education

Teaching Guides:
(Available)

Fundaments of Business-Teacher's Guides

Transportation

Communication Services

Principles of Economy

Business Law

(In process of production)

Business Mathematics

Insurance

Banking Services

Principles of Managment

Economy

Office Simulation

Industrial Arts

The World of Manufacturing (translation, adaptation and implementation)

Includes Teacher's Guide, Laboratory Manual, and a Student Text Book.

Trades and Industrial Education

(In process of production)

Learning packages for the students

Electricity

Principles in Technical Drawing

Principles of Technological Education

Cosmetology

Construction and Furniture Design

Automobile Mechanic

Barbering

Teaching Guides:

Power Sewing Machine Operation

Preparation for the World of Work

Personality and Human Relations

How to Apply for a Job

Labor Relations Laws in Puerto Rico

Safety

Work Simplification

Guidance

Monographs:

Construction Carpenter

Stenotype

Automobile Mechanic

Accounting Machines Operator

Diesel Mechanic

Business Office Machines Mechanic

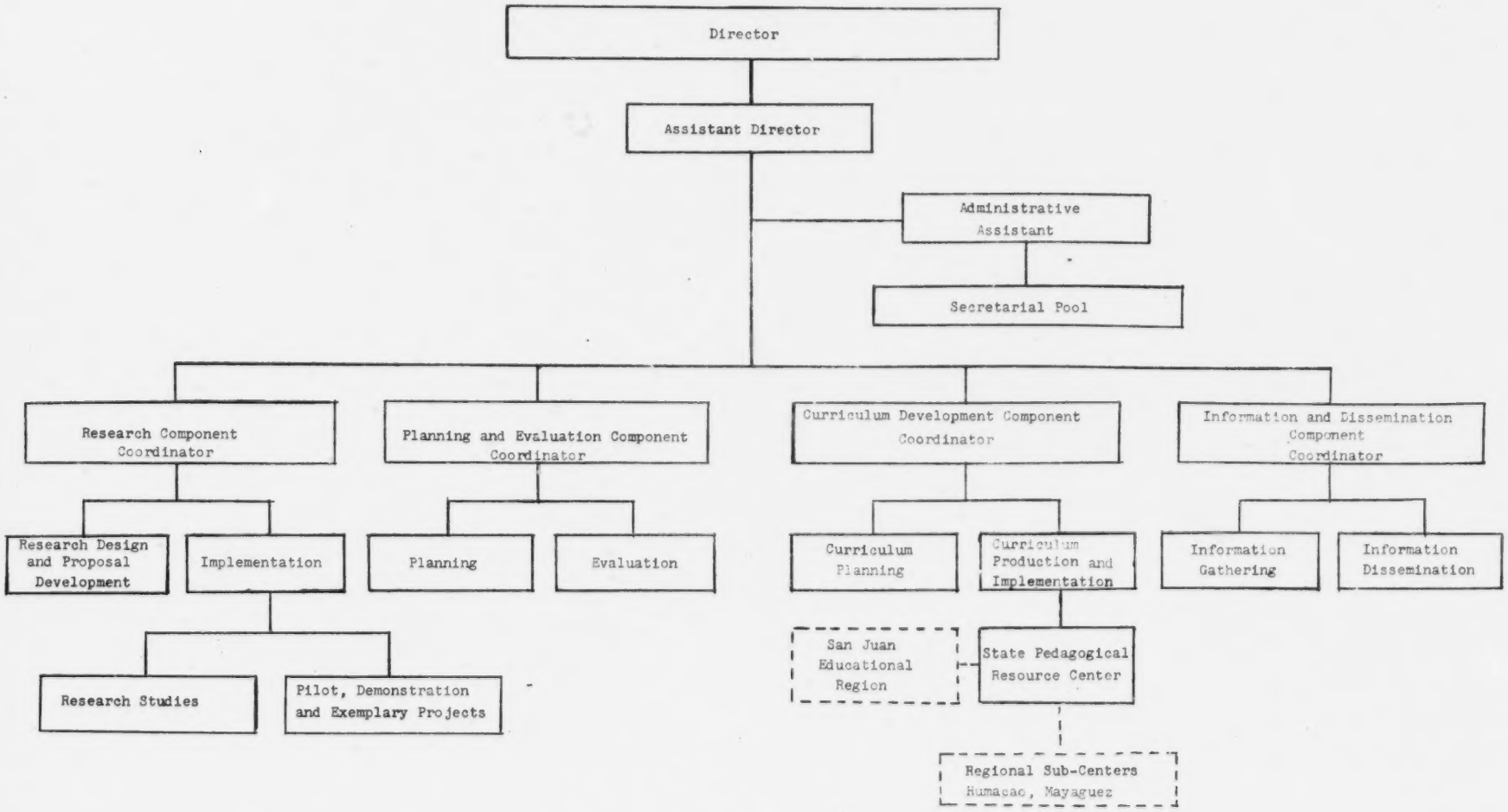
Agriculture Equipment Mechanic

Appendix C

ORGANIZATIONAL CHART PERTAINING TO THE RESEARCH AND CURRICULUM DEVELOPMENT COORDINATING UNIT

Vocational and Technical Education Program

ORGANIZATIONAL CHART PERTAINING TO THE RESEARCH AND CURRICULUM DEVELOPMENT COORDINATING UNIT



Printed at

Vocational and Pedagogical
Resource Center
Educational Region
San Juan, Puerto Rico